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EXAMINER	
JARRETT, SCOTT L	

ART UNIT	PAPER NUMBER
3623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/925,033	MUSAFIA ET AL.	
	Examiner	Art Unit	
	Scott L. Jarrett	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-102* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-102* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: System and Method for Monitoring Production Productivity and Replenishing Production Supplies.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 9, 56 and 80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1, Claim 1 recites the limitation "system". There is insufficient antecedent basis for this limitation in the claim.

Examiner interpreted the claim to read "determining ~~system~~ productivity values" for the purpose of examination.

If the applicant intended to claim "determining system productivity values" then the examiner requests clarification as to what system the applicant intends to determine productivity values for and suggests the applicant amend the claim to clearly indicate the system for which the productivity values are being determined.

Regarding Claim 9, Claim 9 recites the limitation "one or more product items". There is insufficient antecedent basis for this limitation in the claim.

Examiner interpreted the claim to read "one or more products ~~items~~" for the purpose of examination.

Regarding Claims 56 and 80, Claims 56 and 80 recite the limitation "determining system productivity values" examiner requests clarification as to what system the applicant intends to determine productivity values for and that the applicant amend the claim to clearly indicate if the productivity values are being determined for the productivity monitoring system itself or another system/environment.

Examiner interpreted the claim to intend to mean that the productivity values are determined for another system/environment and not the productivity monitoring system itself.

Claim Rejections - 35 USC § 101

4. Claims 1-77, 79-100 and 102 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result.

Regarding Claims 1-33, 39-48, 49-77, 79-100 and 102 do not produce a useful, concrete and tangible result. Claims 1-36, 39-48, 49-77, 79-100 and 102 merely collect/store data and determine/calculate a plurality of productivity and other values however the collected/stored data is not utilized to determine the productivity or other parameters/values and the determined/calculated productivity values do not produce a useful, concrete and tangible result such as providing bonuses to workers with high

productivity values, recommending areas for productivity improvements, managing worker performance/output or the like. Claims 1-36, 39-48, 49-77, 79-100 and 102 are therefore deemed to be directed to non-statutory subject matter since they do not do not produce a useful, concrete and tangible result, as explained above.

Regarding Claims 1-56, Claims 1-56 only recite an abstract idea. The recited method for productivity monitoring does not apply, involve, use or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The claimed invention, as a whole, is not within the technological art as explained above claims 1-56 are deemed to be directed to non-statutory subject matter.

Mere intended or nominal use of a component, albeit within the technological arts, does not confer statutory subject matter to an otherwise abstract idea if the component does not apply, involve, use, or advance the underlying process. In the present case, none of the recited steps are directed to anything in the technological arts as explained above with the exception of the recitation of the terms "database" recited in Claim 1 and "computer" in Claim 38. Therefore, the terms discussed are taken to merely recite a field of use and/or nominal recitation of technology.

Examiner suggests the applicant incorporate into Claims 1-56 language that the proposed method is a computer-implemented (computerized) method and that at least one of the method steps is implemented by a computer to overcome this rejection.

Examiner interpreted the Claims 1-56 to be a computer-implemented method for the purposes of examination.

Correction required. See MPEP § 2106 [R-2].

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-18, 20-25, 28-34, 49-51, 54-59, 61-67, 69, 71, 79-82, 84-90, 92, 94 and 102 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kaydos, Will, Operational Performance Measurement (August 1998).

Regarding Claims 1, 57 and 80 Kaydos teaches the importance and role of business productivity/performance metrics/measures a the key first step in enabling company's to improve quality, productivity, sales and profits (Page xi). Kaydos further teaches a performance measurement model that can be applied to any business activity as well as the technical and cultural/organizational requirements for a performance measurement system (Pages xii-xiii).

More specifically Kaydos teaches a system and method for monitoring productivity comprising (Pages 15-21, 23-29, 98-104):

- collecting data from one or more sources (production, etc.; "Designing the Data Collection System", Pages 100-101);

- storing the collected data in one or more databases ("Developing the Data Processing System", Page 102);

- determining (calculating, estimating, etc.) productivity values (metrics, measures, parameters, data, etc.; "Quality and Productivity", Page 130; "What some leading companies are measuring", Page 168-169).

- decentralized/network based measurement system (remote client, client/server, etc.; Page 107).

Regarding Claims 2-18, 20, 54-59, 61-64, 82 and 84-87, Claims 2-18, 20, 54-59, 61-64, 82 and 84-87 recite a plurality of collected data that is not functionally involved in the steps recited nor do they alter the recited structural elements of the productivity method/system therefore the collected data represents non-functional descriptive material. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

Regarding Claim 2 Kaydos teaches a productivity monitoring system and method wherein the collected data comprises company data associated with one or more companies (Pages 38-39, 164-171).

Regarding Claims 3, 61 and 84 Kaydos teaches a productivity monitoring system and method wherein the collected data comprises customer data associated with one or more customers (Pages 37-38, 165).

Regarding Claims 4, 58 and 81 Kaydos teaches a productivity monitoring system and method wherein the collected data comprises worker (staff, personnel, agent, employee, technician, etc.) data associated with one or more workers ("Productivity", Pages 165-166).

Regarding Claim 5 Kaydos teaches a productivity monitoring system and method wherein the collected data comprises vendor (supplier, provider, etc.) data associated with one or more vendors ("Purchasing", Page 169; "Vendor Performance", Page 171).

Regarding Claim 6 Kaydos teaches a productivity monitoring system and method wherein the collected data comprises product (goods, services, output, etc.) data associated with one or more products produced ("Quality, Internal", Pages 26-29, 169-170).

Regarding Claim 7 Kaydos teaches a productivity monitoring system and method wherein the collected data comprises components (items, materials, parts, supplies, etc.) required to produce the one or more products (services, goods, etc.; "Products", Page 27-28; "Quality, Internal", Page 169-170).

Regarding Claims 8, 59 and 82 Kaydos teaches a productivity monitoring system and method wherein the data further comprises the cost of the components (items, materials, parts, etc.) required to produce the product ("if the productivity of the parts is taken care of, the whole will take care of itself.... Both outputs and resources consumed can be expressed in physical units and financial terms (price or cost).", Page 86, Paragraph 1; Pages 96-97; Figure 6-1).

Regarding Claim 9 Kaydos teaches a productivity monitoring system and method wherein the one or more products is produced by one of more individual (unique, atomic, separate, etc.) jobs (steps, processes, methods, activities, steps, etc.; "Manufacturing Process", Pages 95-97; Figure 6-1).

Regarding Claim 10 Kaydos teaches a productivity monitoring system and method wherein the one or more individual jobs (activities, tasks, steps, etc.) further comprise one or more production and non-production jobs (non-value added, waste analysis, non-productive, non production related, support, background, etc.; Pages 28, 73, 86-89, 134; Figures 15-12, 15-13).

Regarding Claim 11 Kaydos teaches a productivity monitoring system and method wherein the collected data further comprises production effort (time, cost, resources, etc.) of the production and non-production jobs (non-value added, waste analysis; Pages 86-89; Figures 15-12, 15-13).

Regarding Claims 12, 15-18, 20, 63-64 and 86-87 Kaydos teaches a productivity monitoring system and method wherein the collected data further comprises worker wage (salary, pay, etc.)/labor cost (Page 169, Bullet 2; Figures 3-9, 3-10), delivery safety margin (threshold, limit, reserve, lead time, etc.; Page 95), hidden cost (component, correction, etc.; Page 197, Paragraph 3), overhead expense/cost (Page 169, Bullet 2), target profit (sales, revenues, margin, percentage, etc.; Pages 129-133; 194-196) and salary incentives (worker incentive value; Page 149) data (Pages 38-41, 149, 163-171, 176-191; Figures 3-9, 3-10).

Regarding Claim 13 Kaydos teaches a productivity monitoring system and method wherein the collected data further comprises period of time worked on one or more production or non-production jobs (Pages 86-89, 134; Figures 15-12, 15-13).

Regarding Claims 14, 62 and 85 Kaydos teaches a productivity monitoring system and method wherein the collected data further comprises a plurality of user-

defined parameters (values, data, metrics, etc.; Pages 163-171; Chapter 5: Determining What to Measure, Pages 63-91).

Regarding Claims 21-25, 28, 30-32, 49-51, 65-67, 69, 79, 88-90, 92 and 102, Claims 21-25, 28, 30-32, 49-51, 65-67, 69, 79, 88-90, 92 and 102 recite a plurality of determined/calculated productivity values that is not functionally involved in the steps recited nor do they alter the recited structural elements of the productivity method/system therefore the determined productivity values represent non-functional descriptive material. The recited method steps would be performed the same regardless of the specific data/values calculated. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

Regarding Claim 21 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise a worker productivity value (Pages 164-171).

Regarding Claims 22, 79 and 102 Kaydos teaches a productivity monitoring system and method wherein the productivity wherein the worker productivity value is a function of actual and expected (desired, required, forecasted, etc.) labor (effort, work, time, etc.) expended on one ore more production jobs (activities, tasks, efforts, steps, etc.; "Performance Gap", Pages 5-6, 47-48; Figures 1-1, 4-1).

Regarding Claim 23 Kaydos teaches a productivity monitoring system and method wherein the expected labor expended is an average (standard) of all worker (staff, personnel, employee, etc.) time spent performing a production job over a period of time (Pages 84-85; Figure 5-11).

Regarding Claim 24 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise worker absenteeism (ratio, metric, value, etc.; Pages 17, 29, 40, 166).

Regarding Claim 25, 65-66 and 88-89 Kaydos teaches a productivity monitoring system and method wherein the productivity value comprise an average efficiency for all workers ("Sales Force Average" cycle time, Page 208; Figure C-8). Kaydos further teaches measuring and analyzing the efficiency and effectiveness (productivity) of each of the elements of the process including but not limited to workers (staff, employees, personnel, etc.; Pages 84-85; Figure 5-11).

Regarding Claims 28, 67 and 90 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise a total cost per product produced (unit cost, total value of finished products/total production costs; Pages 77, 133, 169).

Regarding Claim 29 Kaydos teach a productivity monitoring system and method wherein the total cost further comprises labor, materials, overhead and profit (Pages 77, 87, 133, 149, 169).

Regarding Claim 30 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise worker salaries (Pages 149, 169, Bullet 2; Figures 3-9, 3-10).

Regarding Claims 31, 71 and 94 Kaydos teaches a productivity monitoring system and method wherein the worker salaries further comprise base wages, overtime and productivity incentives (Pages 87, 149, 169, Bullet 2; Figures 3-9, 3-10).

Regarding Claim 32 Kaydos teaches a productivity monitoring system and method wherein the productivity incentive is based on a user specified value ("Reward and Recognition, Page 149).

Regarding Claim 33 Kaydos teaches a productivity monitoring system and method wherein at least workers performing production jobs provide a portion of the data (manual data collection; Page 100-101).

Regarding Claim 34 Kaydos teaches a productivity monitoring system and method further comprising auditing (confirming, verifying, validating, checking, etc.) the

data provided by the workers (accuracy, consistency, etc.; Pages 101, Last Paragraph, 103-104).

Regarding Claim 49 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise the estimated (forecasted, desired, etc.) product sales price (Pages 193-217).

Regarding Claim 50 Kaydos teaches a productivity monitoring system and method wherein the estimated sales price is a function of expected costs and a user-specified profit margin (Pages 40, 193-217; Figure 3-10).

Regarding Claim 51 Kaydos teaches a productivity monitoring system and method wherein the productivity value further comprises an estimated product production cost (Pages 193-217).

Regarding Claim 54 Kaydos teaches a productivity monitoring system and method wherein the data collected further comprises the total revenue generated from the sale of one or more products (Pages 193-217).

Regarding Claim 55 Kaydos teaches a productivity monitoring system and method wherein the data collected further comprises an order history of one or more customers (Pages 193-217).

Regarding Claim 56 Kaydos teaches a productivity monitoring system and method wherein the data collected is from real-time or service output and worker productivity for a business in which products/services are produced at least in part serially (manufacturing, any business activity; manufacturing process, Pages 95-97; Figure 6-1).

Regarding Claims 69 and 92 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise a rate of supply waste (waste analysis; Pages 28, 73, 86-89, 134; Figures 15-12, 15-13).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 19, 26, 35-38, 52, 60 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaydos, Will, Operational Performance Measurement (August 1998) as applied to claims 1-18, 20-25, 28-34, 49-51, 54-59, 61-67, 69, 71, 79-82, 84-90, 92, 94 and 102 above.

Regarding Claims 19, 60 and 83, Claims 19, 60 and 83 recite a plurality of collected data that is not functionally involved in the steps recited nor do they alter the recited structural elements of the productivity method/system therefore the collected data represents non-functional descriptive material. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

Regarding Claim 19, 60 and 83 Kaydos does not expressly teach collecting foreign exchange rate data.

Official notice is taken that it is common for business, especially those businesses that produce, sell, or procure goods/services from/to foreign countries to use foreign exchange rate information in order to convert/transform to or from the foreign currency values (e.g. costs, revenues, etc.) into the business' "native" currency for accounting, reporting and other purposes.

For example a Japanese car company sells cars in the United States for U.S. dollars, which the business then converts into Yen for reporting earnings/revenues or other purposes.

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method with its ability to collect a plurality of cost/revenue data as taught by Kaydos would have benefited from utilizing data related to the foreign exchange rate in order to convert/transform all monetary values to a single currency (baseline); the resultant system being capable of correctly determining costs/revenues and other related productivity values using a single currency.

Regarding Claims 26 and 52, Claims 26 and 52 recite a plurality of determined/calculated productivity values that is not functionally involved in the steps recited nor do they alter the recited structural elements of the productivity method/system therefore the determined productivity values represent non-functional descriptive material. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same

regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

Regarding Claim 26 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise a labor cost per product produced (Pages 86, 168-169, 188-189).

Kaydos further teaches a productivity monitoring system and method wherein a plurality of productivity values are determined and analyzed utilizing well-known statistical and other analysis tools (averages, moving averages, etc.; Page 138).

Kaydos does not expressly teach that the labor cost per product produced in an *average* as claimed.

Official notice is taken that utilizing averages to represent standard values is old and well known for providing a mechanism for describing general trends/values of data under analysis/review.

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method with its ability to collect and analyze labor costs on a per product basis as taught by Kaydos would have benefited from determining/utilizing average labor costs per product in view of the teachings of official

notice; the resultant system providing users/systems with a value describing the general/standard cost of goods produced.

Regarding Claim 35 Kaydos teaches a productivity monitoring system and method wherein the system and method include ensuring the accuracy (reliability) of the collected data (Pages 101-104).

Kaydos does not expressly teach that auditing further comprises comparing the quantity of production jobs reported to an expected quantity of production jobs.

Official notice is taken that it is well known when monitoring/auditing the accuracy (reliability) of data to compare expected (desired) to actual results in order to determine such things as when the collected data is outside of the expected/desired ranges.

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos with its ability to monitor/ensure the accuracy of the collected data would have benefited from comparing expected/desired and actual/collected results in order to identify potentially inaccurate/inconsistent results in view of official notice; the resultant system being more capable of ensuring the accuracy of the collected data.

Regarding Claim 36 Kaydos does not expressly teach that the expected quantity of product jobs is a function of the quantity of products produced.

Official notice is taken that it is old and very well known that the expected quantity of product jobs is inherently a function of the quantity of products produced.

For example if a product requires three steps to manufacture and three products have been produced inherently nine product jobs/production steps have been performed (three steps per product * three products = nine product steps).

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have benefited from determined/calculating the expected number/quantity of product jobs (production/process steps) as a function of the quantity products produced in view of the teachings of official notice; the resultant system being more capable of monitoring and auditing the number of product steps performed and comparing it to the expected number of product steps performed.

Regarding Claims 37-38 Kaydos teaches that the productivity monitoring system and method triggers and displays an alarm when a monitored value does not match the expected value (Page 206; Figure C-6).

Kaydos does not expressly teach triggering and displaying an alarm if the quantity of reported production jobs differs from the expected quantity.

Official notice is taken that triggering and displaying alarms when system a monitored parameter does not match/meet a expected and/or threshold value is an old and well known mechanism for alerting users/systems of the mismatched parameters so that the users/systems can perform a variety of tasks such as taking corrective actions to fix/resolve the mismatched data.

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have benefited from alerting users/systems that the expected number of production jobs was more and/or less then expected as part of the system's auditing/monitoring subsystem in view of the teachings of official notice; the resultant system enabling users/systems to take actions to correct the reported discrepancy.

Regarding Claim 52 Kaydos does not expressly teach estimating product costs as a function of historical cost values as claimed.

Official notice is taken that estimating product (goods, service, etc.) costs based on historical values is old and very well known for providing a mechanism for forecasting/estimating/determining product costs.

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have benefited from estimating (determining, calculating, etc.) product costs based on historical values in view of the teachings of official notice; the resultant system providing forecasted productivity/performance metrics/values based on the estimated product/service costs.

9. Claims 27, 39-42, 44-45, 47-48, 53, 68, 70, 72-76, 78, 91, 93, 95-99, and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaydos, Will, Operational Performance Measurement (August 1998) as applied to claims 1-26, 28-38, 49-52, 54-67, 69, 71, 79, 80-90, 92, 94 and 102 above and further in view of Maskell, Brian, Performance Measurement for World Class Manufacturing (1991).

Regarding Claims 27 and 53, Claims 27 and 53 recite a plurality of determined/calculated productivity values that is not functionally involved in the steps recited nor do they alter the recited structural elements of the productivity method/system therefore the determined productivity values represent non-functional descriptive material. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

Regarding Claim 27 Kaydos teaches a productivity monitoring system and method wherein the productivity values further comprise a material cost per product produced (Page 86, Paragraph 1; Pages 96-97).

Kaydos does not expressly teach that the material cost per product produced is an *average* as claimed.

Maskell teaches determining the average material cost per product produced (".... completed and scheduled quantities are also shown valued at standard (or target or average) cost.", Page 88; Pages 253, 272-273, 366) in an analogous art of performance measurement for the purposes of providing a "detailed pictured" via a daily productions report (Page 89).

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method with its ability to collect and analyze material costs on a per product basis as taught by Kaydos would have benefited from determining/analyzing the average material cost per product produced in view of the teachings of Maskell; the resultant system providing users of the system/method with a "detailed pictured" of the daily completed products (Maskell: Page 89).

Regarding Claims 39, 68, 72, 91 and 95 Kaydos teaches a productivity monitoring system and method further comprising inventory management and purchasing systems in manufacturing/production environments (i.e. monitor supply usage, materials, resources, etc.) as discussed above.

Kaydos does not expressly teach *determining* the usage rate of supplies as claimed.

Maskell teaches determining and providing the material usage (rate, value) of supplies (components, items, raw materials, etc.; Page 35, Paragraph 3) as part of standard/common accounting reports in an analogous art of performance measurement for the purposes of providing feedback to users/stakeholders of the manufacturing/production system (Pages 35-36, 252-254).

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have benefited from determining and reporting the material usage as part of a set of common/standard production/manufacturing productivity/performance reports in view of the teachings of Maskell; the resultant system providing feedback to users of the production/manufacturing system regarding their productivity/performance (Maskell: Pages 35-36).

Regarding Claim 40 Kaydos teaches a productivity monitoring system and method wherein the workers enter (input, submit, collect, etc.) a plurality of the collected data (manual data collection) and that a plurality of productivity/performance measures are derived from the data collected as discussed above.

Kaydos does not expressly teach *determining* the usage rate of supplies as claimed.

Maskell teaches determining and providing the material usage (rate, value) of supplies (components, items, raw materials, etc.; Page 35, Paragraph 3) as part of standard/common account reports in an analogous art of performance measurement for the purposes of providing feedback to users/stakeholders of the manufacturing/production system (Pages 35-36, 252-254).

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have benefited from determining and reporting the material usage as part of a set of common/standard production/manufacturing productivity/performance reports in view of the teachings of Maskell; the resultant system providing feedback to users of the production/manufacturing system regarding their productivity/performance (Maskell: Pages 35-36).

Regarding Claims 41, 73 and 96 Kaydos does not expressly teach determining a daily supply usage rate as claimed.

Maskell teaches determining supply usage for a plurality of inventory reports (inventory turns, material usage, work-in-process, cycle times, etc.) covering a plurality of time periods including daily reports in an analogous art of performance/productivity monitoring for the purposes of providing feedback on the success of inventory management programs/efforts ("The reports can be produced daily or weekly and are used as indicators of success...", Page 252, Paragraph 4; Pages 252-254, 358-360).

It would have been obvious to one skilled in the art at the time of the invention that the productivity system and method as taught by Kaydos would have benefited from providing a plurality of productivity/performance reports, including daily material usage (inventory) reports, to users of the production/manufacturing system in view of the teachings of Maskell; the resultant system providing daily feedback to users regarding their inventory management (reduction) efforts (Maskell: Page 252).

Regarding Claims 42, 74 and 97 Kaydos teaches utilizing the productivity monitoring system and method to determine/identify performance/productivity challenges related to inventory management/control for the purposes of improving the inventory management processes/procedures in order to avoid supply shortages (Pages 223-229). Kaydos further teaches that manufacturing environments further

comprise well-known inventory control/management and purchasing systems/sub-systems and that those systems "... keep the inventory of each item between specific limits." (i.e. inherently ordering inventory items as necessary; Page 76, Last Paragraph; Pages 76-78).

Kaydos does not expressly teach determining the minimum quantity of supplies required before additional supplies must be ordered.

Maskell teaches determining the minimum quantity of supplies required before additional supplies must be ordered, commonly known as inventory turns and/or months of stock remaining (Pages 252-258; Figure 8-3) in an analogous art of performance monitoring for the purposes of reducing/minimizing inventories of raw material, work-in-process and finished goods as part of a just-in-time manufacturing system.

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have benefited from utilizing well known inventory (materials, supply, item) management systems and methods to avoid supply shortages (i.e. material availability) by utilizing inventory re-order/threshold points to trigger the purchase (requisition, procurement) of the necessary production items in view of the teachings of official notice; the resultant system thereby avoiding costly supply/material shortages (Kaydos: 223-229).

Regarding Claims 44, 75 and 98 Kaydos teaches a productivity monitoring system and method further comprising determining the quantity of wasted supplies (waste analysis; Pages 86-89; Figures 15-12, 15-13).

Regarding Claim 45 Kaydos does not teach comparing actual and expected amount of supplies to determine the quantity of waste as claimed.

Maskell teaches comparing the actual and expected amount of supplies to determine the quantity of waste as claimed ("backflushing", scrap, etc. Pages 250-252; Figure 8-1), in an analogous art of performance measurement for the purposes of increasing performance/productivity by tracking, analyzing and ultimately reducing the amount of waste in the system (Page 249, Paragraph 2).

It would have been obvious to one skilled in the art at the time of the invention that the business performance measurement system and method as taught by Kaydos would have benefited from determining the amount of waste by comparing actual to expected inventory levels in view of the teachings of Maskell; the resultant system providing a mechanism to monitor, analyze and reduce waste in the system thereby increasing performance/productivity (Maskell: Page 249, Paragraph 2).

Regarding Claims 47-48, 76, 78, 99 and 101 Kaydos teaches utilizing the productivity monitoring system and method to determine/identify

performance/productivity challenges related to inventory management/control (Pages 223-229) for the purposes of improving the inventory management processes/procedures in order to avoid supply shortages. Kaydos further teaches that the manufacturing environment further comprises well-known inventory control/management and purchasing systems/sub-systems and that those systems "are supposed to keep the inventory of each item between specific limits." (i.e. inherently ordering inventory items as necessary, automatically order additional supplies when necessary; Page 76, Last Paragraph; Pages 76-78, 96, 190, 225).

Regarding Claim 53, 70 and 93 Kaydos teach a productivity monitoring system and method including determining delivery productivity/performance metrics (delivery performance, on-time delivery rate; Pages 165, 171).

Kaydos does not expressly teach that one of the productivity values is the average number of delivery days (time) for one or more components (parts, items, materials) as claimed.

Maskell teaches that productivity values further comprise an average number of delivery days for one or more components (average lead-time, on-time delivery, delivery performance; "D:P" ratio, Pages 141-145; "The ratio maybe calculated as an average....", Page 145, Paragraph 3), in an analogous art of performance

measurement, for the purposes of establishing a clear link between customer requirements and manufacturing processes (Page 141).

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have benefited from determining the average number of delivery days for one or more components (products, items, lead-times, D:P ratio, etc.) in view of the teachings of Maskell; the resultant system enabling users to establish the performance/productivity of the system with respect to the link between customer requirements and manufacturing processes (Maskell: Page 141).

10. Claims 43, 46, 77 and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaydos, Will, Operational Performance Measurement (August 1998) in view of Maskell, Brian, Performance Measurement for World Class Manufacturing (1991) as applied to claims 1-39, 42, 44-45, 47-76, 78-99 and 101-102 above and further of Mowery et al., U.S. Patent No. 5,983,198.

Regarding Claim 43 Kaydos teaches utilizing the productivity monitoring system and method to determine/identify performance/productivity challenges related to inventory management/control (Pages 223-229) for the purposes of improving the inventory management processes/procedures in order to avoid supply shortages. Kaydos further teaches that the manufacturing environment further comprises well-

known inventory control/management and purchasing systems/sub-systems and that those systems "are supposed to keep the inventory of each item between specific limits." (i.e. inherently ordering inventory items as necessary; Page 76, Last Paragraph; Pages 76-78, 96, 190, 225).

Kaydos does not expressly teach determining the minimum quantity of supplies required, as a function of the daily supply usage rate, before additional supplies must be ordered.

Maskell teaches determining the minimum quantity of supplies required before additional supplies must be ordered, commonly known as inventory turns and/or months of stock remaining (Pages 252-258; Figure 8-3) in an analogous art of performance monitoring for the purposes of reducing/minimizing inventories of raw material, work-in-process and finished goods as part of a just-in-time manufacturing system.

Maskell further teaches the utilization of well-known materials requirement planning systems and methods (MRP II, manual inventory tracking) to insure "materials availability" for the production/manufacturing system (i.e. ensuring the system has the appropriate supplies, raw materials, parts, components, etc.; Pages 154-155; Figure 5-16).

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method as taught by Kaydos would have

benefited from utilizing well known inventory (materials, supply, item) management systems and methods to avoid supply shortages (i.e. material availability) by utilizing inventory re-order/threshold points to trigger the purchase (requisition, procurement) of the necessary production items in view of the teachings of official notice; the resultant system thereby avoiding costly supply/material shortages (Kaydos: 223-229).

Neither Kaydos nor Maskell teach determining the minimum quantity of supplies as a function of the average rate of supplies per day as claimed.

Mowery et al. teach determining the minimum quantity of supplies as a function of the average rate of supply usage (Abstract; Column 1, Lines 8-30 and 50-58; Column 4, Lines 18-40; Column 6, Lines 7-18), in an analogous art of inventory management/materials requirement planning, for the purposes of reducing raw material stock-outs (Column 1, Lines 50-55)

More generally Mowery et al. teach an inventory management system and method wherein material usage is monitored and analyzed in order to automatically re-order/replenish supplies based on re-order/trigger points or historical/forecasted material usage in order to avoid material/supply stock-outs by maintaining minimum inventory levels for supplies (Abstract; Column 1, Lines 8-30 and 50-58; Column 4, Lines 18-40).

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method with its ability to monitor supply usage and purchase/order supplies when necessary as taught by the combination of Kaydos and Maskell would have benefited from determining the minimum quantity of supplies as a function of the average daily usage rate in view of the teachings of Mowery et al.; the resultant system enabling the production/manufacturing system to avoid stock shortages that negatively impact performance/productivity (Kaydos: 223-229; Mowery et al.: Column 1, Lines 50-55).

Regarding Claims 46, 77 and 100 Kaydos teach that the productivity monitoring system and method, as part of a production/manufacturing system/environment, prepares and submits supply orders (inventory management, purchasing, etc.) in order to ensure the availability of production materials as well as monitors/reports a plurality of delivery performance productivity values as discussed above.

Kaydos does not expressly teach preparing a supply order as a function of an average delivery time for supplies as claimed.

Maskell teaches a productivity monitoring system comprises inventory/materials requirement management as well as monitors/reports on delivery performance/lead-times (Pages 141-145, 154-155; Figure 5-16) and schedule adherence (parts past due; Pages 97-99).

Maskell does not expressly teach preparing a supply order as a function of an average delivery time for supplies as claimed.

Mowery et al. teach preparing a supply order, which insures on-time delivery (i.e. inherently taking into account delivery times), in an analogous art of inventory/materials management, for the purposes of ensuring minimum supply/material levels are maintained at the customer's site through the optimal delivery scheduling and routing (Column 4, Lines 18-32; Column 7, Lines 40-57; Column 8, Lines 61-66).

Mowery et al. does not expressly teach utilizing average delivery times as claimed.

Official notice is taken that utilizing average delivery times in order/route scheduling systems and method is old and well known and provides a mechanism for ensuring the delivery/route schedule accounts for travel/delivery times to ensure on-time deliveries.

It would have been obvious to one skilled in the art at the time of the invention that the productivity monitoring system and method with its ability to monitor material/supply usage and order/purchase materials when necessary to ensure at least a minimum inventory/quantity of the supplies are maintained as taught by the

combination of Kaydos, Maskell and Mowery et al. would have benefited from accounting for the average delivery lead-times when ordering supplies in view of the teachings of official notice; the resultant system ensuring that supply/material inventory/quantity levels do not fall below minimum/required levels for the production/manufacturing system (Mowery et al.: Column 7, Lines 40-47; Column 8, Lines 61-65).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Murray, John, U.S. Patent No. 4,413,277, teaches a productivity monitoring system and method for operator conducting time-motion studies and motivating operators to achieve target performance goals.

- Ferriter, Kate, U.S. Patent No. 5,212,635, teaches a worker productivity/efficiency monitoring system and method wherein the individual technician efficiency is compared to average/standard efficiency values.

- Powers et al., U.S. Patent No. 5,500,795, teach a productivity monitoring and control system and method for collecting, storing and determining the efficiency of an organization. Powers et al. further teach a plurality of common/well-known productivity measures utilized by manufacturing systems including but not limited to: labor hours, income defects per unit and the like. Powers et al. teach the utilization of average productivity measures for trend analysis as well as mapping actual performance to expected/targeted performance goals (functions).

- Johnson et al., U.S. Patent No. 5,712,989, teach a just-in-time manufacturing requisition and inventory management system and method.

- Janovski et al., U.S. Patent No. 5,726,914, teach a performance analysis system and method.

- Salvo et al., U.S. Patent No. 6,341,271, teach a vendor-managed inventory management system and method wherein suppliers (items, materials, etc.) are

automatically replenished/order based on historical/forecasted usage rates, required delivery time and other factors.

- Green et al., U.S. Patent No. 6,356,875, teach a productivity and worker incentive system and method wherein the system monitors a plurality of productivity/performance metrics including but not limited to: production, non-production, benefits, overtime, overhead, material usage, number of remakes, salary/pay rate, total labor costs, etc. and determines a plurality of productivity/performance metrics including but not limited to production units per hour, per function and per product type in order to reward and/or penalize workers (employees) for productivity/performance that meets productivity targets.

- Kelly, Andrew Jeffrey, U.S. Patent No. 6,681,210, teaches performance/productivity based payroll system and method wherein workers performance/productivity, material usage, estimated labor costs, overtime, and other factors determine the workers salaries and/or bonuses/incentives.

- Bull, Jeffrey, U.S. Patent No. 6,735,574, teaches a productivity monitoring system and method that collets and stores a plurality of data in a database in order to determine the productivity of a worker. Bull further teaches that the productivity monitoring system utilizes a client/server architecture.

- Graichen et al., U.S. Patent Publication No. 2001/0032195, teach a productivity monitoring system and method wherein the system utilizes customer, worker and company data such as equipment utilization, material usage, costs, cycle time, salary

and benefit, cost per unit (procedure) and the like to identify opportunities for improving organizational productivity.

- Herbert et al., U.S. Patent No. 2001/0056367, teach a productivity monitoring system and method comprising collecting and storing production (work, effort, etc.) data and determining performance/productivity values. Graichen et al. further teach that the network based workforce management system and method compares individual agent (employee, staff, personnel) performance/productivity measures to average/group metrics.

- Boor, Iqball, Measuring construction labor productivity with daily visits, teaches a productivity monitoring system and method wherein the system collects a plurality of worker data (e.g. production, non-production time) and determines labor productivity values. Boor further teaches a plurality of old and well known productivity monitoring systems and methods including but not limited to direct observation, work study, activity sampling and the like.

- Singh et al., A review and analysis of state-of-the-art research on productivity measurement, teach a plurality of well known and widely used performance/productivity systems and methods including but not limited to: index measurement, linear programming, econometric models and the like.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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